

<b>X21A1 SAFETY CHECKLIST</b>			BROOKHAVEN NATIONAL LABORATORY NATIONAL SYNCHROTRON LIGHT SOURCE
<b>Rev: B</b>	<b>Effective: 6/1/2005</b>	<b>Page 1 of 1</b>	Number: LS-SCL-0087
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Original signatures on file.

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- ☐ 1. Valid Padlock Index and log, no locks open
- ☐ 2. Exclusion Zone (EZ # 1) between the front end and the graphite tank in place and secure.
- ☐ 3. Lead wrapped around graphite filter tank as per photo, and view port covered with leaded glass.
- ☐ 4. Water cooled Beryllium window #1 and cross piece wrapped in lead.
- ☐ 5. Exclusion Zone (EZ # 2) in place and secure
- ☐ 6. Lead shielding covering burst disk.
- ☐ 7. Lead shielding on Monochromator #1 including leaded glass on view port.
- ☐ 8. Exclusion Zone (EZ # 3) in place and secure
- ☐ 9. Bremsstrahlung shield (BS #1) in place and banded, as per photo.
- ☐ 10. Lead wrapped around front face of Monochromator tank # 2 as per photo, and lead glass covering view port secure.
- ☐ 11. Exclusion Zone (EZ # 4) in place and secure.(note: BS #2 inside EZ #4)
- ☐ 12. Monochromator #3 view port wrapped in lead and covered with leaded glass.
- ☐ 13. Exclusion Zone (EZ # 5) in place and secure.
- ☐ 14. Lead wrapped around 2 view ports secure (top of the mirror tank)
- ☐ 15. Exclusion Zone (EZ # 6) in place and secure.
- ☐ 16. View ports(8) on Mirror Tank #2 covered in lead
- ☐ 17. Exclusion Zone (EZ # 7) in place and secure.
- ☐ 18. View port covered with leaded glass, in place and secure.
- ☐ 19. Vacuum Bellows #7 wrapped in lead.
- ☐ 20. Bremsstrahlung shield (BS #3) in place and banded, as per photo.
- ☐ 21. Photon Shutter wrapped in lead as per photo
- ☐ 22. Vacuum Bellows #8 wrapped in lead.
- ☐ 23. Beam pipe and interlock cables locked in place in the X21A3 hutch
- ☐ 24. Vacuum Bellows #9 wrapped in lead
- ☐ 25. Exclusion Zone (EZ #8) in place and secure
- ☐ 26. Vacuum Bellows # 10 wrapped in lead.
- ☐ 27. Exclusion Zone (EZ #9) in place and secure.
- ☐ 28. Bremsstrahlung shield (BS #4) in place and banded, as per photo.
- ☐ 29. View port covered with leaded glass, in place and secure.
- ☐ 30. Beamstop in X21A1 hutch in place and secure, as per photo.

## User System Checks

- ☐ A. User interlock indicates all valves open.
- ☐ B. User interlock indicates sufficient water flow.
- ☐ C. User interlock indicates cooling of monochromator running.

Checked by: \_\_\_\_\_ Date: \_\_\_\_\_

OPCO: \_\_\_\_\_ Date: \_\_\_\_\_